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Addenda

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I am pleased that Lloyd (1980) has been republished in *The Behavior Analyst*. Professor K. Geoffrey White suggested the 1980 publication and, along with Mary Foster and Bernard Guerin, has been instrumental in its republication. Thanks to all three. My addenda will not include an update of the topics in the 1980 article because references for those topics are readily available: There are say-do correspondence studies in the behavioral literature (Paniagua, 1990; Ward & Stare, 1990; P. Wilson, Rusch, & Lee, 1992) and attitude-behavior congruence studies in the social psychology literature (Ajzen, 1987; Baron, Graziano, & Stangor, 1991; Fazio, 1990; Myers, 1990; T. Wilson, Dunn, Kraft, & Lisle, 1989); environmental issues are addressed in the behavioral and social journals (Austin, Hatfield, Grindle, & Bailey, 1993; "Behavior Analysis and Safety," 1988; Mathews & Dix, 1992; Myers, 1990). Instead, I shall summarize three diverse research areas that involve relationships among different verbal response classes as well as among verbal and nonverbal response classes—areas not often considered in an analysis of say-do correspondence.

First, one review of social psychological research (Nisbett & Wilson, 1977) examined the accuracy with which persons can report their own thought processes or cognitions. They examined subjects' explanations of responses that they had made during previous experimental sessions. For example, participant subjects (as opposed to observer subjects, see below) gave their opinions on an issue before and after they discussed the issue with a person whose opinion was opposed to their original opinion; or they judged the quality of items of clothing arranged in a row. Later they were asked to explain their opinions or judgments. Although participant subjects actually changed their opinions following the discussion, they reported that their final opinion was the same as their original one; although participant subjects judged the last clothing item in the row as the best, they explained their judgment in terms of texture, color, or design. Subjects did not hesitate to offer such explanations of their behavior, no matter how inaccurate. These results were well summarized in the article's title: "Telling More Than We Can Know: Verbal Reports on Mental Processes."

The explanations of participant subjects were compared to those of observer subjects. Observer subjects only read descriptions of the treatments and results and then stated how they thought the participant subjects would explain their behavior. Participants and observers gave similar explanations. Whatever the causal variables, they were apparently similar for both participants and observers.

Nisbett and Wilson (1977, p. 248) proposed "that when people are asked to report how a particular stimulus influenced a particular response, they do so not by consulting a memory of the mediating process, but by applying or generating causal theories about the effects of that type of stimulus on that type of response. . . . These plausibility judgments exist prior to, or at least independently of, any actual contact with the particular stimulus." Such "a priori causal theories" are culturally supplied rationalizations about behavior independent of immediate direct experience. They are then emitted in situations similar to those arranged in the above experiments.

Second, anthropologists' interest in this topic stems in part from their use of village informants as a source of data. If

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direct observation of behavior is lacking, then some level of agreement between what informants say about how people behave and how they do behave must be assumed. Several examples of lack of agreement among response classes follow.

Hindu farmers' statements that they deified the cow and did not eat beef were compared to Indian cattle census data (Harris, 1979; Vaidyanathan, Nair, & Harris, 1982). In areas where male traction animals were needed, the ratio of oxen to cows was 200:100; in areas where other traction sources were available and where food was scarce, this ratio was 67:100. The farmers offered multiple explanations of these different ratios; for example, cows are sacred and never eaten, or that male calves are weak and die young. Only when repeatedly quizzed did farmers suggest that sometimes male calves starved if they were prevented from suckling the cow. This illustrated low correspondence between two classes of verbal behavior (say-say vs. say-do) as well as between verbal reports and sex ratios.

Brazilian sharecroppers were asked to explain the types of land they farmed, how the types differed, and the kind of crops that were planted in each (Johnson, 1974). Later, the crops they planted in each category were directly observed. The farmers' descriptions often differed from the actual plantings. Additional examples from ethnobiology are given in Gould (1980). Similarly, correspondence has been found to vary between verbal preferences for foods and actual foods eaten (Harris, 1985; Rathje & Murphy, 1992).

Third, the role of instructions (both from the experimenter or the subjects themselves) when performing human operant tasks has been examined. Some positive correlations of verbal and nonverbal responding occur (Bernstein & Michael, 1990), although these correlations can "present major methodological problems" (Horne & Lowe, 1993, pp. 56–57; Shull & Fuqua, 1993, pp. 410–412). Variables that control the accuracy of verbal reports have been examined; for example, reinforcing subjects for verbal performance descriptions that oppose the reinforcement contingencies for nonverbal operant responding (Torgrud & Holborn, 1990).

Perone and Kaminski (1992, p. 573; see also Hineline & Wacker, 1993, pp. 272–273) have discussed the preexperimental reinforcement history of their subjects (cf. "a priori causal theories" of Nisbett & Wilson, 1977). Critchfield and Perone (1993) have cited Nisbett and Wilson as providing data that can suggest baselines for subsequent studies (like theirs) examining variables that increase or decrease accuracy of verbal report (cf. T. Wilson et al., 1989, for variables that decrease accuracy, or Fazio, 1990, for variables that increase accuracy). Finally, a cross-species analogue is available in Shimp's (1983) examination of "knowing that" as well as "knowing how" (see also Hineline, 1992).

In summary, common sense and much of social science assume that mental events precede behavioral ones. Behavior analysis is in a unique position with its model of two response classes that may or may not be related and with its knowledge of how to relate them via correspondence training (Karlan & Rusch, 1982; Lloyd, 1980, pp. 6–7). Other approaches seem to be limited by some notion of unity of the two response systems; that is, a mental or personality force somehow having priority over the overt response system.

At a time when behavior analysts are looking for a broader audience (e.g., Commons, Fantino, & Branch, 1993; Lattal, 1992), the research areas mentioned above provide some common ground for discussion and research. However, behavioral interpretations of the research described here may not necessarily be welcomed in other fields. We do not currently have data in a form that will properly impress social psychologists or anthropologists (Eubanks & Lloyd, 1992, pp. 37–40; Guerin, 1992, pp. 1429–1430). Important as our available data are, their content is too far removed from the current repertoires of social scientists for those scientists to take us seriously when we talk about social behavior or its complement, verbal behavior.

Undoubtedly, the ultimate ease of re-

lying upon verbal descriptions (instructions, requests, promises, threats) to control human behavior will maintain its occurrence—as compared to the overall effort involved in direct observation and contingency management. As long as humans talk to each other, there will continue to be an implicit assumption that some correspondence exists between talking and doing. It behooves us to make the degree of that correspondence as explicit as possible. Although differences among the three areas of interest outlined above are often stressed, there are also similarities worth pursuing (Critchfield & Perone, 1993, p. 212).

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